

IN THE CLAIMS:

Please **AMEND** claims 1, 4, 7, 9-12, 15, 19 and 20 in accordance with the following:

1. **(CURRENTLY AMENDED)** An apparatus for recording data on an optical recording medium, comprising:

a recording waveform generating unit which generates a recording waveform having an erase pattern containing a multi-pulse and a recording pattern containing another multi-pulse, a power level of a leading pulse of the erase pattern being a low level of the multi-pulse and a power level of a pulse between an end point of ~~trailing pulse of the erase pulse~~ pattern and a start point of a leading pulse of the recording pattern being a high level of the multi-pulse; and

a pickup unit which generates light to the optical recording medium according to the generated recording waveform so that a mark or a space is formed on the optical recording medium.

2. **(ORIGINAL)** The apparatus of claim 1, further comprising: a channel modulation unit which channel modulates data provided from an outside source, and outputs an NRZI data signal to the recording waveform generating unit.

3. **(ORIGINAL)** The apparatus of claim 1, wherein the pickup unit comprises:

a motor which rotates the optical recording medium;

an optical head having a laser device which generates a laser beam to the optical recording medium or receives the laser beam reflected from the optical recording medium;

a servo circuit which servo-controls the motor and the optical head; and

a laser driving circuit which drives the laser device installed in the optical head.

4. **(CURRENTLY AMENDED)** An apparatus for recording data on an information storage medium, comprising:

a recording waveform generating unit which generates a recording waveform comprising a recording pattern, an erase pattern having a multi-pulse, and a cooling pulse concatenating the recording and erase patterns, a power level of a leading pulse of the erase pattern being a low level of the multi-pulse and a power level of a ~~trailing pulse of~~ between an end point of the erase pulse pattern and a start point of a leading pulse of the recording pattern being a high level of the multi-pulse; and

a pickup unit which records with respect to the information storage medium according to the generated recording waveform so as to form a mark and/or a space on the information storage medium.

5. **(PREVIOUSLY PRESENTED)** The apparatus of claim 1, wherein the recording waveform generating unit generates a further multi-pulse of another recording pattern, and a cooling pulse as a portion of the multi-pulse of the erase pattern and another portion of the further multi-pulse of the another recording pattern.

6. **(PREVIOUSLY PRESENTED)** The apparatus of claim 4, wherein the generating unit adjusts a pulse of the recording pattern according to a pulse of the multi-pulse of the erase pattern.

7. **(CURRENTLY AMENDED)** An apparatus for recording data on an information storage medium, comprising, comprising:

a modulator which modulates input data according to according to a Run Length Limited (RLL)(1, 7);

a recording waveform generating unit which receives the modulated input data and generates a recording waveform which includes a first multi-pulse having a plurality of first pulses to form the recording pattern in response to a first level of the input data and a second multi-pulse having a plurality of second pulses to form the erase pattern in response to a second level of the input data, a power level of a leading one of the second pulses of the erase pattern being a low level of the multi-pulse and a power level of a pulse between an end point of the erase pattern and a start point of a leading pulse of the recording pattern being a high level of the multi-pulse; and

a pickup forming a mark or a space by using the generated recording and erasing waveforms.

8. **(PREVIOUSLY PRESENTED)** The apparatus of claim 1, wherein the recording waveform generating unit generates the recording waveform using the input data modulated according to a Run Length Limited (RLL)(1, 7) method.

9. **(CURRENTLY AMENDED)** The apparatus of claim 1, wherein the recording waveform comprises another recording pattern formed of a further multi-pulse, and the recording

waveform generating unit adjusts a first one of the multi-pulses of the another recording pattern to have a power that is ~~equal~~ greater than the power of the pulse between the end point of the erase pattern and the start point the recording pattern ~~to a power of a first one of the multi-pulses of the erase pattern.~~

10. **(CURRENTLY AMENDED)** The apparatus of claim 4~~7~~, wherein the recording waveform comprises another recording pattern formed of a further multi-pulse, and the recording waveform generating unit adjusts a first one of the multi-pulses of the another recording pattern to have a power greater than the power of the pulse between the end point of the erase pattern and the start point the recording pattern ~~other than a power of a first one of the multi-pulses of the erase pattern.~~

11. **(CURRENTLY AMENDED)** The apparatus of claim 4, wherein the recording waveform comprises another recording pattern formed of a further multi-pulse, and the recording waveform generating unit adjusts a first one of the multi-pulses of the another recording pattern to have a power that is greater than the power of the pulse between the end point of the erase pattern and the start point the recording pattern ~~equal to a power of a first one of the multi-pulses of the erase pattern.~~

12. **(CURRENTLY AMENDED)** The apparatus of claim 4~~5~~, wherein the recording waveform comprises another recording pattern formed of a further multi-pulse, and the recording waveform generating unit adjusts a first one of the multi-pulses of the another recording pattern to have a power greater than the power of the pulse between the end point of the erase pattern and the start point the recording pattern ~~other than a power of a first one of the multi-pulses of the erase pattern.~~

13. **(PREVIOUSLY PRESENTED)** The apparatus of claim 9, wherein the multi-pulse of the erase pattern has a first pulse power and a second pulse power greater than the first pulse power, and the power of the first one of the multi-pulses of the erase pattern is equal to the first pulse power.

14. **(PREVIOUSLY PRESENTED)** The apparatus of claim 10, wherein the multi-pulse of the erase pattern has a first pulse power and a second pulse power greater than the first pulse power, and the power of the first one of the multi-pulses of the recording pattern is equal to

the first pulse power.

15. **(CURRENTLY AMENDED)** The apparatus of claim 9, wherein the multi-pulse of the another recording pattern further comprises a recording pulse having a recording power greater than the power of the power of the pulse between the end point of the erase pattern and the start point the recording pattern~~first one of the pulses of the another recording pattern~~.

16. **(PREVIOUSLY PRESENTED)** The apparatus of claim 1, wherein the recording waveform further comprises a cooling pulse concatenating and included in the erase pattern and an additional recording pattern, the cooling pulse having a cooling power less than a power of a last pulse of the another multi-pulse of the recording pattern and a power of a first pulse of the multi-pulse of the erase pattern.

17. **(PREVIOUSLY PRESENTED)** The apparatus of claim 4, wherein the cooling pulse has a cooling power less than a power of a last pulse of the recording pattern and/or a power of a first pulse of the multi-pulse of the erase pattern.

18. **(PREVIOUSLY PRESENTED)** The apparatus of claim 5, wherein the cooling pulse has a cooling power less than a recording power of the recording pattern and a power of a first pulse of the multi-pulse of the erase pattern.

19. **(CURRENTLY AMENDED)** An apparatus for recording data on an optical recording medium, comprising:

a recording waveform generating unit which generates a recording waveform having an erase pattern containing a multi-pulse and a recording pattern containing another multi-pulse, a power level of a leading pulse of the erase pattern being a high level of the multi-pulse and a power level of a ~~trailing pulse~~ between an end point of the erase pattern and a start point of a leading pulse of the recording pattern being a high level of the multi-pulse; and

a pickup unit which generates light to the optical recording medium according to the generated recording waveform so that a mark or a space is formed on the optical recording medium.

20. **(CURRENTLY AMENDED)** An apparatus for recording data on an optical recording medium, comprising:

a recording waveform generating unit which generates a recording waveform having an erase pattern containing a multi-pulse and a recording pattern containing another multi-pulse, a power level of a leading pulse of the erase pattern being a low level of the multi-pulse and a power level of a ~~trailing-pulse~~ between an end point of the erase pattern and a start point of a leading pulse of the recording pattern being a low level of the multi-pulse; and

a pickup unit which generates light to the optical recording medium according to the generated recording waveform so that a mark or a space is formed on the optical recording medium.